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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,468	01/29/2004	Kheng Chiong Tay	07044.0002	3727

22852 7590 08/27/2007
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

REAMES, MATTHEW L

ART UNIT	PAPER NUMBER
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2891

MAIL DATE	DELIVERY MODE
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08/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/766,468

Applicant(s)

TAY ET AL.

Examiner

Matthew L. Reames

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6 and 9-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 9-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Response to Arguments***

1. Applicant's arguments filed on 6/6/2007 have been fully considered but they are not persuasive. In regards to applicants assertion that the lead are not leads figure 6 shows 3 LEDs with 2 wire bonds on each of the LEDs which is a total of 6 wire bonds connected to 6 lead frame structures. Further the internal leads follow the same path as the external leads and two of which show notched regions (semicircular portions) corresponding the exterior bent portions. These must be leads, further there must be six leads extending to the out side of the package in order to power the three LEDs (a positive lead and a negative lead for each LED). It is further noted Hoshiba is design is for an ornamental **"Light Emitting Diode."** The device still operates as a light emitting device and there must be at least 2 external connection for each of the 3 LEDs (Light Emitting Diodes) shown. Therefore again there must be 6 external connections to power the LEDs these must be bent elements pointed to in the previous office action dated 3/8/2007.

2. Further Shaddok (3001), Ishinaga (6,355,946), Maruyama (6,483,623), and Waitl (6,624,491) and Seeger (D432095) are provided to show that one skill in the art would interpret the bent portions of Hoshiba as lead frame from merely observing the design. Each on of the provided references shows two lead frames per LED and the lead frames protrude the housing to provide electrical contact for the device.

3. The Examiner notes that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in

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order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See, e.g., *In re Pearson*, 18 1 USPQ 641 (CCPA); *In re Minks*, 169 USPQ 120 (Bd Appeals); *In re Casey*, 152 USPQ 235 (CCPA 1967); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963); See MPEP §2114. The recitation of "heat dissipation", does not distinguish the present invention over Hoshiba who teaches the structure as claimed. Wherein the lead frames further inherently dissipate heat.

4. Therefore the rejection is deemed proper.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the drawings must show the base protruding from a side surface and a middle portion to a bottom surface and two other side surfaces, wherein the other two other side surfaces are used for electrical contact must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Specifically the drawings only show the base protruding from the middle of the other two side surfaces. They do not show the base protruding from a middle portion.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate

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prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The amendment filed 5/11/2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: on page 4 1st paragraph applicant entered "preferably a metal frame". This is new matter since metal frame did not appear in the specification dated 1/29/2004 the date which the claims were submitted.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Objections

7. Claim 1 and 10 are objected to because of the following informalities: In regards to claim 1, the term "optoelectronic component." Is unclear since all the elements of claim 1 are part of the "optoelectronic component" thus how can something protrude from itself. For the sake of compact prosecution "optoelectronic component" in the last paragraph shall be interpreted as housing.
8. In regards to claims 1 and 10, the phrases "electrically conductive frame to form a base" and "opaque plastic material to form a housing" appear to be intending use with no clear recitation of base or housing. It is understood to mean "electrically conductive frame forming a base" and opaque plastic material forming a housing for the assembly. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 17-19,20-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant has not taught were each of the two base/frame sections protrudes from the other two side surfaces. Applicant

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only teaches the combined base protruding from three sides and neither of the two bas have no two common sides from which they protrude.

11. Does applicant mean: wherein each of the two bases protrudes from one of the two other sides?

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claims 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Roberts (6,335,548).

a. As to claim 15, Roberts teaches an electrically conductive frame (see e.g. metal item 204, 209, 2404). A opaque thermoplastic (see item 203) a cavity formed in the plastic material, the area above the laser/led 202 (the

optoelectronic device) under 401 cannot be opaque otherwise light would not transmit therefore item 203 cannot be around the LED/laser thus forming a cavity. Wherein the base protrudes from a side (see e.g. fig 3 elements 204, and 209, and fig 4 and 24). Robert also teaches a base must protrudes from the encapsulant in order to contact element 2404. Roberts further teaches wherein at least one protrusion extending from a side surface extends further from the side surface than the base protrusion extends from the bottom surface (see fig. 24 item 209), since Robert teaches the base is flush with the package bottom (see e.g. fig. 17c). Wherein protrudes is interpreted as not being covered

b. As to claim 16, Roberts teaches the base protrusion from the bottom surface extends along the bottom surface for at least 1/3 of the bottom surface (see e.g. fig. 3,4 and 17c).

14. Under the interpretation that each of the bases section protrude from one of the two other sides Claims 17-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Hsu (US 20040000727).

a. As to claims 17-23, Hsu teaches an optoelectronic (see e.g. item 20) with element forming the base of the structure (see items 19,16,18), and a opaque plastic (item 30) forming a housing in conjunction with the transparent material (item 51). With the opaque material having a cavity; with the base protruding from the all the middles of the sides and the bottom (see e.g. fig .11 and 12), wherein they are not covered by the encapsulant thus the protrude from the encapsulant. Hsu further teaches wherein each of the bases protrude from the

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bottom and from one of the two other sides (see e.g. fig. 11 and 12) with each base section flush (identical dimensions outside the housing) and one base section larger than the other towards the middle (see fig. 11 and 12) with the optoelectronic component on the larger of the two base sections

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4,6,9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshiba (D505,396) in view of Shaddock, Ishinaga, Maruyama, Waitl, and Seeger.

- a. As to claims 1 and 10, Hoshiba teaches an optoelectronic component based on a surface mount technology, the optoelectronic component comprising: an electrically conductive frame to form a base for an assembly (see eg. fig.5 and 6); an opaque material to form a housing for the assembly (see figs.); a cavity formed within the material (see fig. 6); at least one protrusion extending from a side surface of the housing to provide heat dissipation, the leads inherently dissipate heat; and at least one optoelectronic chip mounted in the cavity (see fig.6), wherein the base protrudes from a middle portion (see figs.) to a bottom surface (the lead wraps around) and two other side surfaces of the optoelectronic

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component (see figs), the bottom surface and the two other side surfaces of the optoelectronic component providing external mounting connection terminals (see figs). Wherein Hoshiba does not explicitly say that the bent material is a lead frame however in view of Shaddock, Ishinaga, Maruyama, Waitl, and Seeger one of ordinary skill in the art would have interpreted the bent material to be lead frame extending from the inner portion of the housing to the external portion of the housing to light the 3 LEDs shown in figure 6. Further it is noted everything conducts heats therefore everything acts to dissipate heat to some extend.

Further, Hoshiba does not teach a plastic material.

However it would have been obvious to one of ordinary skill in the art at the time of the invention to use plastic for the housing.

One would have been so motivated to reduce cost and to provide a light durable housing.

- b. As to claims 3 and 13, Hoshiba teaches a metallic wire (see fig. 6).
- c. As to claims 4 and 14, Hoshiba teaches the external mountings terminals can be used for external subsystems.
- d. As to claim 6, Hoshiba teaches wherein the base protrudes outside the plastic material.
- e. As to claims 9 and 12, Hoshiba teaches the device can be externally connected with out leads.
- f. As to claims 2 and 11 Hoshiba does not explicitly filling the cavity with transparent resin.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to have filled the cavity with a transparent resin.

One would have been so motivated in order to incorporate downcovering phosphor for varying shades of white, or structural stability of the package or even to decrease vibrations in the base material.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period; then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew L. Reames whose telephone number is (571)272-2408. The examiner can normally be reached on M-Th 6:30-5:00.

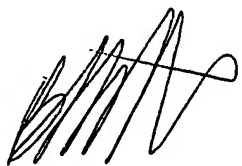
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, B. William Baumeister can be reached on (571)272-1722. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MLR



B. WILLIAM BAUMEISTER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800